EXHIBIT F

Excerpts of Lu Deposition

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IN THE UNITED STATES BANKRUPTCY COURT

FOR THE DISTRICT OF DELAWARE

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In re:
Chapter 11
Case No. 22-11068

FTX TRADING LTD., et al., (JTD)

Debtors.

Deposition of KEVIN LU, taken pursuant to notice, was held at the law offices of SULLIVAN & CROMWELL LLP, 125 Broad Street, New York, New York, commencing March 1, 2024, 9:00 a.m., on the above date, before Leslie Fagin, a Court Reporter and Notary Public in the State of New York.

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methodology that you used in this assignment is generally identical to the methodology used to generate the Coin Metrics' prices with minor adjustments, is that right? A. That's right. Q. What were the minor adjustments necessary to price FTX digital assets? A. In this case, I created a hierarchy of exchanges where I first preferred to use exchanges that are considered trusted by the trusted exchanges that are considered trusted by the trusted exchanges framework and if a given asset is not traded on those exchanges, then I would then consider exchanges, then I trusted exchanges that are not trusted exchanges, then I would consider trusted and if a given asset is not traded on those exchanges, then I would consider trusted exchanges, then I would consider trusted exchanges, then I would consider using the FTX exchanges and that is the using the FTX exchanges and that is the primary way that this methodology differs from the Coin Metrics' prices. The Coin I will be the industry for the coin Metrics' prices. The Coin I will be considered trusted exchanges or not trusted exchanges, then I would consider using the FTX exchanges and that is the paragraph on that same page it says, It is reported trading activity. Do you see that? K. Lu Bitwise in 2019 where they revealed that there was a great deal of wash trade that cocurs in the industry. I saw firsthand how the industry responded to this finding. Fage 60 K. Lu Bitwise in 2019 where they revealed that there was a great deal of wash trade that cocurs in the industry. I saw firsthand how the industry responded to the folks that work within the industry responded to the 2019 Bitwise article, is that right? A. Yes. Q. And how did the industry respond? A. There was a large amount of media attention. I believe data providers and practitioners within the industry rether published research or made changes in exponse to the finding. C. O. Any obser changes in the industry that providers and practitioners within the industry rether published research or made ch				
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24 response to the finding. 24 Q. But you are aware that many of the				
- C. That endinged and processioners make environment at teact viaint to have minimized to	25	Q. What changes did practitioners make	25	exchanges at least claim to have implemented

	Page 62		Page 63
1	K. Lu	1	K. Lu
2	corrective changes as a result of the	2	a hypothetical population.
3	findings of the 2019 article, is that right?	3	Q. So your understanding is that in
4	A. I don't know if they've made	4	statistics, it is typical for a confidence
5	•	5	
6	changes or not. Q. Part of your analysis and part of	6	interval to be pegged to a certain percentage of value like the 95 percentile?
7	the assignment is this calculation of a	7	A. Yes, it can be reported at any
8	confidence interval, is that right?	8	arbitrary level, but typically, 95 percentile
9	A. Yes.	9	is used.
10	Q. And that's supposed to reflect the	10	Q. What source do you rely on for your
11		11	determination that typically, the 95
12	of an asset, is that right?	12	percentile is used?
13		13	A. It's based on my studies of
14	\mathcal{U}	14	statistics at during my undergrad studies,
15		15	it's based on other reports that I've
16		16	encountered during my professional
17		17	experience. I have found that 95th
18		18	percentile seems to be an industry standard,
19		19	if you will, that people tend to use.
20		20	Q. What courses at Berkeley did you
20 21	a certain level such as the confidence	21	take in statistics?
22	interval at the 95 percent level and that	22	A. I took statistics courses, I can't
23	means that for a given statistic, the value	23	recall the exact names, but they were a
24	of that statistic would fall within that	24	requirement for my economics degree.
25	range of 95 percent of the samples drawn from	25	Q. What's the basis for your opinion
	Page 64		Page 65
1	K. Lu	1	K. Lu
2	that using the 95th percentile for purposes	2	and I chose the specific methodology I used
3	of calculating a confidence interval is	3	to calculate this number to fulfill my
4	industry standard?	4	assignment.
5	A. From reviewing other reports and	5	Q. Would you agree though that your
6	papers on a variety of topics.	6	pricing methodology including by excluding
7	Q. And to be clear, when you say	7	certain exchanges is taking a sample and then
8	industry standard, what industry are you	8	extrapolating that to determine the value for
9	referring to?	9	the population more broadly?
10	A. It goes beyond the cryptocurrency	10	MR. GLUECKSTEIN: Objection to
11		11	form.
12	applied to a variety of contexts.	12	A. No, I do not consider that a sample
13	Q. Would you agree that the term	13	because usually when you refer to a sample,
14	confidence interval is intended to express	14	you are usually referring to a random sample
15		15	where you are sampling without any bias.
16	a sample to a larger population?	16	My methodology involved selecting
17	A. I think that's one possible	17	the highest quality constituent market.
18	1 /	18	These are markets that are unlikely to engage
19	1 2	19	in wash trading, have large volume, are
20	Q. Is that an accurate interpretation	20	unlikely to have outliers so I would not
21	for how you are using the term confidence	21	consider this a sample of the population.
22	interval in your declaration?	22	Q. If you look at your rebuttal report
23	A. My interpretation of my assignment	23	which is Exhibit 2, in paragraph 34, you
24	1	24	discuss three examples where you say that a
25	uncertainty of my determination of the price	25	confidence interval calculated using the

	Page 66		Page 67
1	K. Lu	1	K. Lu
1 2	standard method in statistics would lead to	1 2	
3	unintuitive results.	3	sections of Mr. Konstantinidis' report that
		4	criticized both my initial declaration and
4	Do you see that? A. Yes.	5	Professor Howell's report.
5			MR. TOROSIAN: Can we maybe take
6	Q. Are the three examples that you	6	five minutes.
7	provide, were those taken from any	7	MR. APPLEBAUM: We will take a
8	statistical textbooks or other academic	8	five-minute break.
9	authority?	9	(Recess.)
10	A. No.	10	Q. Mr. Lu, one of the questions I
11	Q. Did you derive those three examples	11	asked you a moment ago was about comparing
12 13	from any of the statistics courses you took	12 13	the 95th percentile to the 95 percent
14	at Berkeley or any other courses you have	14	interval.
15	taken on statistics?		If I reask that and ask is the 95th
16	A. No.	15	percentile the same as the 95 percent
	Q. Is the 95th percentile the same as	16	confidence interval, is that the same thing?
17	the 95th percent interval in statistics?	17	MR. GLUECKSTEIN: Objection to
18	A. I don't know. I'm not sure if I	18	form.
19	understand your question.	19	A. I'm not sure. The 95th percentile
20	Q. Are you generally familiar with	20	is just an abstract term. I don't know if
21	Professor Howell's work and analysis in this	21	they're the same thing.
22	case?	22	Q. How does the term how does the
23	A. I wouldn't say I'm generally	23	95 percent confidence interval compare to a
24	familiar. I read a portion of her expert	24	margin of error?
25	report. The portion that was relevant to the	25	A. Typically, in my experience, the
	Page 68		Page 69
1	K. Lu	1	K. Lu
2	margin of error is just an alternative term	2	purpose of your calculating the confidence
3	for the confidence interval and typically,	3	interval?
4	the margin of error will be reported at,	4	A. I really don't know, except that it
5	again, arbitrary level like 95 like at the	5	was specifically asked for as part of the
6	95th percentile.	6	scope of my work.
7	Q. I just asked you a little bit about	7	Q. So one of the things that you say
8	your familiarity with Professor Howell's	8	in your declaration is that the purpose is to
9	analysis.	9	estimate a range within which you think the
10	You are aware that she used your	10	true price will fall, is that right?
11	analysis and the numbers you reported as part	11	A. Yes.
12	of her analysis, is that right?	12	Q. So does that mean that there is a
13	A. I believe she used the prices that	13	true price, but that you are not able to
14	I calculated, yes.	14	calculate that with precision?
15	Q. Do you believe that do you	15	A. I think there is a true price, that
16	understand that her work was affected in any	16	would be the price that is the output of
17	way by the specific confidence interval for	17	applying my methodology to the data.
18 19	any particular digital asset?	18	Q. Are you done?
	MR. GLUECKSTEIN: Objection to	19	A. Yes.
20	form.	20	Q. So if applying the methodology to
21 22	A. I'm not familiar with the specific	21 22	the data creates the true price, why is the
23	analyses that Professor Howell did, but my understanding was that the confidence	23	confidence interval not zero for every digital asset?
24	interval was not an input that she used.	24	A. The confidence interval just
25	Q. What's your understanding as to the	25	reflects the uncertainty that I may have in
2	Q. What's your understanding as to me	147	refrees the uncertainty that I may have in



	Dago 00		Daga 00
	Page 98		Page 99
1	K. Lu	1	K. Lu
2	created in October 2023, is that right?	2	proof of reserves and I believe that there
3	A. That's right.	3	were substantial changes in how we determined
4	Q. And there is a reference to version	4	the regulatory score.
5	2.0 that was released in March of 2023, is	5	Q. I know you don't remember the exact
6	that right?	6	date that version 1.0 was released, but you
7	A. Yes.	7	believe it was prior to the petition date of
8	Q. Was March '23's version, version	8	FTX's bankruptcy which was November 11, 2022?
9	2.0, was that the original version or was	9	A. Yes.
10	there a version 1.0 or some other prior	10	Q. Were there any other intervening
11	version?	11	versions of the trusted exchange framework in
12	A. There was a version 1.0 that was	12	between version 1.0 and version 2.0?
13	published earlier, I can't recall the exact	13	A. No, there were not.
14	year.	14	Q. So version 1.0 was the version that
15	Q. How was version 1.0 different than	15	was in existence on the FTX bankruptcy
16	version 2.0 or version 2.1?	16	petition date, is that right?
17	MR. GLUECKSTEIN: Objection to	17	A. That's correct.
18	form.	18	Q. Why did Coin Metrics not use
19	A. I can't remember the specifics	19	version 1.0 to analyze and beat the prices of
20	because version 1.0 was published I think in	20	these digital assets if that was the version
21	2020 or something, a substantial amount of	21	that was in existence on the petition date?
22	time ago, but it didn't contain as many of	22	A. There have been substantial
23	these statistical tests to detect fake volume	23	improvements in the methodology between
24	and I believe that it didn't have tests for	24	version 1.0 and version 2.0. I felt that
25	assessing whether or not an exchange has	25	using the most recent version would produce
	Page 100	20	Page 101
	-		
1	K. Lu	1	K. Lu
2	the highest quality results. It represents	2	trustworthiness of an exchange, it changes
3	our latest and most advanced thinking on this	3	slowly, there is no very abrupt changes. I
4	topic and the sample period of data that we	4	felt that the fact that the data sample
5	used in version 2.1 encompassed the petition	5	encompassed the petition time and the fact
6	time.	6	that the trusted exchange framework
7	Q. The data that's used or input into	7	represents our best thinking on this topic
8	the trusted exchange framework is collected	8	made it the appropriate version to use.
9	and reviewed quarterly, is that right?	9	Q. On page 4 of the framework which
10	A. Yes, we tried to adhere to a	10	has the heading, Overall Rankings.
11	quarterly cadence.	11	Do you see that?
12	Q. So the version of the framework	12	A. Yes.
13	that you used in December of 2023 when you	13	Q. This is from version 2.1 which was
14	prepared your declaration would have been	14	released in October of 2023, is that right?
15	using statistics from the exchanges as of the	15	A. Yes.
16	end of Q3 of 2023, is that right?	16	Q. So this page shows the grades that
17	A. That's right.	17	each of these exchanges received in these
18	Q. Why do you believe that that's an	18	five different categories, is that right?
19	appropriate measure to determine whether the	19	A. Yes.
20	exchanges were trustworthy in November of	20	Q. And those are data quality, spot
21	2022?	21	transparency, resilience and security,
22	A. As I said before, the sample data	22	regulatory compliance, API quality and then
23	we used was from I believe Q3 2022 to Q3 2023	23	there is the overall grade?
24	so it included the petition time.	24	A. Yes, that's right.
25	It's also my opinion that the	25	Q. Who decided these would be the five

1		Page 130		Page 131
2 outstanding shares that equates to? 3 A. It's a very, very small amount. 4 Q. Do you know if anyone else at Coin 5 Metrics invests in Coin Base? 6 A. I don't know if others at Coin 7 Metrics invest in Coin Base. 9 Q. Are you required to report your 10 Coin Base share holdings to Coin Metrics? 11 Conflict of interest policy that we have. 12 Op you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metrics? 13 A. No, I don't believe so. 14 Interest policy at Coin Metrics? 15 A. No, I don't believe so. 16 Q. Why not? 17 A. Because the situation is not covered under the policy. 18 covered under the policy. 19 Q. What level of influence are you able to exert with respect to whether Coin Base is included or not as a trusted exchange on the trusted exchange framework, other than Coin Metrics will apply a maintenance of the trusted exchange framework, other than Coin Metrics will apply a maintenance of the trusted exchange framework, other than Coin Metrics will apply a maintenance of the trusted exchange framework and the version 1.0? 2 A. Yes. 2 A. Yes. It was. 2 Q. Do you recall what grade MexC received in the version 1.0? 3 A. I do not recall. In the version 1.0? 4 A. I don't recall it was considered a trusted exchange. 5 A. Yes, it was. 6 Q. Do you know what rankings it received? 7 A. I do not recall the exact ranking. 8 A. Yes, it was. 9 Q. Do you know what rankings it received? 10 Q. Was FTX included on the rankings in the version 1.0? 4 A. I do not recall the exact ranking. 11 A. I do not recall the exact ranking. 12 A. That's right. 13 A. That's right. 14 A. That's right. 15 A. Ro. O. Did you consider any of those other methodologies here? 16 A. I and the price of a digital asset, is that right? 17 A. Beach data provider or index administrator has their own methodology. 18 A. Wash are some other ways that could be used to calculate the price of a digital asset, is that right? 18 A. That's right. 29 Q. Why that are some other ways that could be used to calculate the	1		1	K I n
A. It s'a very, very small amount. Q. Do you know if anyone else at Coin Metrics invests in Coin Base? A. I don't know if others at Coin Metrics invests in Coin Base. Q. Are you required to report your Coin Base share holdings to Coin Metrics? A. No, that is not part of the conflict of interest policy that we have. Q. Do you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metrics? A. No, I don't believe so. Q. Do you believe that owning those interest policy at Coin Metrics? A. No, I don't believe so. Q. Why nor? A. Recause the situation is not covered under the policy. Q. What level of influence are you albe to exert with respect to whether Coin Base is included or not as a trusted exchange framework, other than Coin Metrics will apply Fage 132 K. Lu A. I don't recall. Q. Do you recall what grade MexC received in the version 1.0? A. Yes, it was. Q. Do you know what rankings in the resion Lor. They may also use different statistical techniques in calculating the received in the version for the version 1.0? A. Yes, it was. Q. Do you know what rankings in received? A. Yes, it was. A. That's right. Q. What are some other ways that could be used to calculate price? A. Each data provider or index administrator has their own methodology. Many of them are similar, but typically, they will have their own methodology. Wall will have their own methodology. Wall we their own methodology. Wall will have their own methodology. Wall have their own				
4 Q. Do you know if anyone else at Coin 5 Metrics invests in Coin Base? 6 A. I don't know if others at Coin 7 Metrics invest in Coin Base. 9 Q. Are you required to report your 9 Coin Base share holdings to Coin Metrics? 10 A. No, that is not part of the conflict of interest policy that we have. 11 conflict of interest policy that we have. 12 Q. Do you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metrics? 13 shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports, offer memorandum, anything like that in your capacity as a shareholder reports anything like that in your capacity as a shareholder reports anything like that in your capacity as a shareholder than the treatment any other shareholder vould receive. 12				
5 Metrics invests in Coin Base? 6 A. I don't know if others at Coin 7 Metrics invest in Coin Base. 9 Q. Are you required to report your 9 Coin Base share holdings to Coin Metrics? 10 A. No, that is not part of the conflict of interest policy that we have. 11 Q. Do you believe that owning those interest policy at Coin Metrics? 12 A. No, 1 don't believe so. 14 interest policy at Coin Metrics? 15 A. No, 1 don't believe so. 16 Q. Why not? 17 A. Because the situation is not covered under the policy. 18 A. Because the situation is not covered under the policy. 19 Q. What level of influence are you able to exert with respect to whether Coin Base is included or not as a trusted exchange on the trusted exchange framework? 22 A. I am not involved in the day to day amintenance of the trusted exchange framework, other than Coin Metrics will apply 25 Faramework, other than Coin Metrics will apply 26 A. I also don't recall. 27 Q. Do you recall what grade MexC are eviewed in the version 1.0? 28 A. Yes, it was. 29 Q. Do you know what rankings it received? 30 A. Yes, it was. 31 C. Was FTX included on the rankings in the version 1.0? 32 A. I also don't recall. 33 Q. Do you know what rankings it received? 44 The received in the version 1.0? 55 A. I also don't recall. 66 Q. Was FTX included on the rankings in the version 1.0? 67 A. A Yes, it was. 69 Q. Do you know what rankings it received? 60 A. Yes, it was. 60 Q. You testified earlier that the methodology that you'ce created here is one way that you can calculate the price of a digital asset, is that right? 68 A. Tash's right. 69 Q. What are some other ways that could be used to calculate the price of a digital asset, is that right? 60 A. Tash's right. 61 A. Tash's right. 62 A. Each data provider or index administrator has their own methodology. 62 A. Each data provider or index administrator has their own methodology. 63 A. C. A. No, I mainly just used out existing any other methodologies for how to calculate the prices for the digital assets in this case? 64 A. Yes, Well, in t				
A. I don't know if others at Coin Metrics invest in Coin Base. Q. Are you required to report your Coin Base share holdings to Coin Metrics? A. No, that is not part of the conflict of interest policy that we have. Q. Do you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metrics? A. No, I don't believe so. Q. Why not? A. Recause the situation is not covered under the policy. Q. What level of influence are you able to exert with respect to whether Coin Base is included or not as a trusted exchange on the trusted exchange framework? A. I am not involved in the day to day maintenance of the trusted exchange framework, other than Coin Metrics will apply Take the constituents A. I also don't recall. Q. Do you rely on any of that reporting in determining whether Coin Base is a trusted exchange within the framework? A. No. Q. So you are familiar with the exchange LBank, is that right? A. Yes. Q. LBank received a grade of C under data quality in the current version of the trusted framework, is that right? A. Yes. Q. Do you recall what grade LBank received in the version 1.0? A. I also don't recall. Q. Was FTX included on the rankings in the version 1.0? A. I also don't recall. Q. Was FTX included on the rankings it the version 1.0? A. I also don't recall the exact ranking, Q. Do you know what rankings it the version 1.0? A. I do not recall the exact ranking, Q. Do you considered a trusted exchange. A. I also don't recall the exact ranking, Q. Do you consider using any of those other methodologies may use the weighted average or a time weighted average, but Trecall it was considered a trusted exchange. Q. Do you consider using any of those other methodologies for how to calculate the using a weight average would be susceptible to digital asset, is that right? A. That's right. Q. What are some other ways that could be used to calculate price? A. Fach data provider or index administrator has their own methodology. Many of them are similar, but typically, they will have the				, , ,
Metrics invest in Coin Base. 7				
8 Q. Are you required to report your 9 Coin Base share holdings to Coin Metrics? 10 A. No, that is not part of the 11 conflict of interest policy that we have. 12 Q. Do you believe that owning those 13 shares of Coin Base violates the conflict of 14 interest policy at Coin Metrics? 15 A. No, I don't believe so. 16 Q. Why not? 16 A. Secause the situation is not 17 A. Because the situation is not 18 covered under the policy. 19 Q. What level of influence are you 20 able to exert with respect to whether Coin 21 Base is included or not as a trusted exchange 22 on the trusted exchange on the trusted exchange framework? 23 A. I am not involved in the day to day 24 maintenance of the trusted exchange 25 framework, other than Coin Metrics will apply 26 A. I also don't recall. 27 Q. Do you recall what grade MexC 28 A. I also don't recall. 39 Q. Do you recall what grade MexC 40 received in the version 1.0? 41 A. I also don't recall. 42 A. I also don't recall. 43 Q. Do you know what rankings in the trustent of the version 1.0? 44 A. Yes, it was. 45 Q. Do you know what rankings it received? 46 A. I do not recall the exact ranking, 47 Price. Those are other common techniques that I've seen from reviewing other methodologies. 48 A. Yes, it was. 49 A. Yes, it was. 40 Do you know what rankings it received? 41 A. I do not recall the exact ranking, 41 C. You testified earlier that the wethodology that you've created here is one way that you can calculate the price of a digital asset, is that right? 40 Q. What are some other ways that could be used to calculate the price of a digital asset, is that right? 41 A. Yes well, in the development of the development of a digital asset, is that right? 42 A. Taba's right. 43 A. Yes well, in the development of				
Coin Base share holdings to Coin Metrics? A. No, that is not part of the conflict of interest policy that we have. Q. Do you believe that owning those share policy at Coin Metrics? A. No, I don't believe so. A. No, I don't believe so. A. Recause the situation is not covered under the policy. A. Because the situation is not covered under the policy. Base is included or not as a trusted exchange on the trusted exchange framework? A. I am not involved in the day to day maintenance of the trusted exchange framework, other than Coin Metrics will apply A. I don't recall. A. I don't recall. A. I don't recall. C. Do you recall what grade MexC Terecived in the version 1.0? A. I also don't recall. C. Q. Was FTX included on the rankings in the version 1.0? A. I do not recall the exact ranking. D. Do you know what rankings it received? A. I do not recall the exact ranking. D. Do you testified earlier that the way that you can calculate the price of a digital asset, is that right? A. That's right. Q. What are some other ways that could be used to calculate price? A. Tack data provider or index a trusted exchange framework? A. I do not recall the exact ranking. A. Yes, it was. Q. Do you trecall what grade MexC A. I do not recall the exact ranking. A. Yes, it was. Q. Do you the way that you can calculate the price of a digital asset, is that right? A. They may also use different statistical techniques in calculating the price. Some methodologies may use the weighted average price. Those are other common techniques that I was consider using any of those other methodology that you've created here is one way that you can calculate the price of a digital asset, is that right? A. They may also use different statistical techniques in calculating the price. Some methodologies may use the weighted average, or a did consider the usage of a weighted average, but our backtesting resulud be susceptible to outliers, flash crashes and suspected manipulations, whereas the usage of a weighted average, but our backtesting resulud be susce			l .	
A. No, that is not part of the conflict of interest policy at Coin Metrics? Q. Do you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metrics? A. No, I don't believe so. Q. Why not? A. Rocause the situation is not covered under the policy. Q. What level of influence are you able to exert with respect to whether Coin Base is included or not as a trusted exchange on the trusted exchange framework? A. I am not involved in the day to day maintenance of the trusted exchange framework, other than Coin Metrics will apply Fage 132 A. I am not involved in the day to day amintenance of the trusted exchange framework. Fage 132 A. I also don't recall. Q. Do you recall what grade MexC areceived in the version 1.0? A. I also don't recall. Q. Do you know what rankings in the version 1.0? A. I also don't recall the exact ranking, but I recall it was considered a trusted exchange. Q. You testified earlier that the methodology that you've created here is one way that you can calculate the price of a diagital asset, is that right? A. Yes, it was. Q. Do you know what rankings it received? A. I do not recall the exact ranking, but I recall it was considered a trusted exchange. Q. You testified earlier that the methodology that you've created here is one way that you can calculate the price of a diagital asset, is that right? A. Yes, Well, in the development of the coin Metrics' prices five years ago, we did consider the usage of a weighted average, but our backtesting results indicated that using a weight average wolld be susceptible to outliers, flash crashes and suspected to outliers, flash crashes and of a weighted median is more robust to these situations. Q. Did you consider any other methodologies for how to calculate the prices for the digital asset, is this right? A. No, I maniply just used our existing				
conflict of interest policy that we have. Q. Do you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metrics? A. No, I don't believe so. Q. Why not? A. Because the situation is not covered under the policy. Q. What level of influence are you able to exert with respect to whether Coin Base is included or not as a trusted exchange on the trusted exchange on the trusted exchange of the trusted exchange of the trusted exchange framework, other than Coin Metrics will apply Tage 132 A. Lu A. I don't recall. Q. Do you real what grade MexC received in the version 1.0? A. I also don't recall. Q. Do you reall what grade MexC received in the version 1.0? A. I also don't recall. Q. Do you know what rankings it received? A. Yes, it was. Q. Do you know what rankings it received? A. I do not recall the exact ranking, but I recall it was considered a trusted exchange. A. I do not recall the exact ranking, but I recall it was considered a trusted exchange. A. I do not recall the exact ranking, but I recall it was considered a trusted exchange. A. I do not recall the exact ranking, but I recall it was considered a trusted exchange. Q. Do you know what rankings it received? A. I do not recall the exact ranking, but I recall it was considered a trusted exchange within the framework? A. N. No. Q. So you are familiar with the exchange lating the trusted exchange within the framework? A. Yes. Q. Lank, is that right? A. Yes. Q. Do you recall what grade LBank received in version 1.0 of the trusted exchange framework? A. I also don't recall. A. I also don't recall. Q. Was FTX included on the rankings in the version 1.0? A. I do not recall the exact ranking, but I recall it was considered a trusted exchange within the framework? A. Yes. B. Lu A. Yes. Well, in the development of the trusted exchange within the framework? A. No, I manify just to exchange of time exchange in trusted exchange at rusted exchange in trusted exchange in trusted exchange in trust			l .	
Q. Do you believe that owning those shares of Coin Base violates the conflict of interest policy at Coin Metries? A. No, I don't believe so. Q. Why not? A. Because the situation is not covered under the policy. Q. What level of influence are you able to exert with respect to whether Coin Base is included or not as a trusted exchange of the trusted exchange framework? A. I arm not involved in the day to day maintenance of the trusted exchange framework, other than Coin Metrics will apply Page 132 K. Lu A. I don't recall. Q. Do you recall what grade MexC received in the version 1.0? A. I also don't recall. Q. Was FTX included on the rankings in the version 1.0? A. I also don't recall. Q. Was FTX included on the rankings it received? A. I al on or recall the exact ranking, but I recall it was considered a trusted exact and gight a sest, is that right? A. Tak's right. Q. You testified earlier that the methodology that you'ce reated here is one way that you can calculate the price of a digital asset, is that right? A. Each data provider or index administrator has their own methodology. A. Fach data provider or index administrator has their own methodology. A. Fach data provider or index administrator has their own methodology. A. Fach data provider or index administrator has their own methodology. A. Fach data provider or index administrator has their own methodology. A. Fach data provider or index administrator has their own methodology. A. Fach data provider or index administrator has their own methodology. A. Fach data provider or index at rusted exchange with the exchange in trusted exchange in				
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15 A. No, I don't believe so. Q. Why not? A. Because the situation is not covered under the policy. 20 able to exert with respect to whether Coin abse to exert with respect to whether Coin absence of the trusted exchange and trusted exchange are trusted exchange. 10 A. I do not recall the exact ranking, but I recall it was considered a trusted exchange. 11 A. I do not recall the exact ranking, but I recall it was considered at rusted exchange. 12 but I recall it was considered a trusted exchange. 13 A. That's right. 14 A. I as a did not recall the exact ranking, but I recall it was considered at rusted exchange. 15 A. That's right. 16 C. What are some other ways that could exchange. 17 A. Yes. 18 A. Turn of the trusted exchange and trusted exchange framework; is that right? 19 Q. What are some other ways that could exchange framework. 10 D. Did you consider must excludate that the methodology that you've created here is one way that you can calculate the p				
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Q. Does that include exchanges such as 21 coming from a less trusted exchange?		C			l
22 I Bank?					
22 Dunk: 24 A. There is no latter of indicator in	22	LBank?	22	A. There is no label or indicator in	l
A. Yes, LBank is one of the exchanges 23 the market data feed that speaks of the					
24 in the market data feed product. 24 quality of an exchange.					l
Q. Does the inclusion of LBank render 25 MR. APPLEBAUM: I believe that's			25		1

			Page 139
1	K. Lu	1	K. Lu
2	all the questions we would request	2	Do you know what a market maker is?
3	production of a copy of the conflict of	3	A. Yes.
4	interest policy that was referenced. I	4	Q. What is a market maker?
5		5	
	will pass the witness. EXAMINATION BY		A. They typically will hold inventory
6		6 7	in a wide range of assets and facilitate the buying and selling of that asset to
7	MR. CHAPPLE:		, ,
8	Q. My name is Ben Chapple. I'm an	8	interested parties. They're in the business
9	attorney with Reed Smith.	9	of providing liquidity to buyers and sellers
10	The ground rules that Mr. Applebaum	10	that desire liquidity.
11	went over with you at the outset of this	11	Q. Do you believe there are any
12	deposition apply. We won't talk over each	12	competitive market makers with respect to
12 13 14	other.	13	Maps and/or OXY tokens?
14	If there is anything you don't	14	A. I don't know if there are any
15	understand, please ask me to rephrase my	15	market makers that engage in trading of those
16	question.	16	assets.
17	A. Sure.	17	Q. So you are just simply unaware
18	Q. If you answer my question, I will	18	whether any market makers exist competitive
19	assume you understand it.	19	or otherwise?
20 21	Do you understand?	20	A. Right, there could be or couldn't
21	A. Yes.	21	be, I don't know one way or the other.
22	Q. Obviously, we covered a lot of	22	Q. In connection with your engagement,
23	ground today. I will do my best not to	23	you undertook no effort to determine the
24	rehash anything we've already discussed, but	24	extent to which there are market makers, is
25	there will be some overlap.	25	that correct?
	Page 140		Page 141
1	K. Lu	1	K. Lu
2	A. That's right.	2	A. Yes, I received questions from
3	Q. You specifically advised Professor	3	Alvarez & Marsal. They presented me with
4	Howell not to use volume data from ZB, Local	4	some data which showed outliers in volume,
5	Bitcoin and LBank, isn't that correct?	5	many of which came from the exchanges ZB.com
6	A. No, I did not specifically advise	6	and LBank.
7	her to do that.	7	In Coin Metrics' experience of
8	Q. Do you believe that Professor	8	maintaining our data feeds with exchanges
9	Howell should have used volume data from ZB,	9	over the past five years, we've determined
10	Local Bitcoin or LBank?	10	that there are several instances where the
11	A. Again, this is something that's	11	reported data from ZB.com and LBank is
12	hard for me to offer an opinion about since	12	clearly erroneous. We've seen specific
13	it's outside the scope of my work and I am	13	examples where volume has spiked by a factor
14	not familiar with the scope of her assignment	14	of 8,000 which suggests to us that the data
15	or the research regarding how to calculate a	15	is completely wrong and we observed this both
16	liquidity discount so for those reasons, I	16	on LBank and ZB.com.
17	can't say whether or not it's appropriate or	17	I expressed these thoughts to
18	not whether it's appropriate or not	18	Alvarez & Marsal, but I had no context as to
19	appropriate.	19	how they were going to use this information.
20	Q. So just to be clear, when I asked	20	Q. So it was not your intention to
21		21	
22	earlier if you advised Professor Howell not	22	advise Professor Howell directly or
	to use volume data from ZB, Local Bitcoin or	23	indirectly whether or not she should use
23	LBank, just to be clear, I mean directly or		volume data from ZB, Local Bitcoin and/or
24 25	indirectly including through counsel.	24	LBank, is that correct?
/ 7	Do you understand?	25	A. I didn't know the context of how

	Page 142		Page 143
1	K. Lu	1	K. Lu
2	they were going to use it. I simply received	2	the highest activity for cryptocurrency
3	some charts that showed some outliers and I	3	occurs 9:00 a.m. to 4:00 p.m. where the
4	explained to them why they are seeing these	4	trader is located, correct?
5	outliers.	5	A. It generally follows that pattern.
6	Q. Cryptocurrency trades 24/7,	6	Q. Under what circumstances does it
7	correct?	7	not follow that general pattern?
8	A. Yes.	8	A. I don't know. There could be
9	Q. And cryptocurrency traders are all	9	certain assets that just for some reason,
10	over the world, right?	10	don't follow that pattern.
11	A. Yes.	11	Q. Sitting here today, are you
12	Q. Do you agree that the highest	12	familiar with any circumstances or specific
13	activity in cryptocurrency generally	13	instances where it did not follow that
14	strike that.	14	general pattern that you can point to?
15	Do you agree with the statement	15	A. I don't know of any specific
16	that the highest activity in cryptocurrency	16	instances, I haven't looked at the data.
17	trading occurs between 9:00 a.m. and 4:00	17	Q. So in light of recognizing that
18	p.m. local time?	18	generally, the highest activity in
19	A. By local time, do you mean a	19	cryptocurrency occurs between 9:00 a.m. and
20	specific time zone or	20	4:00 p.m. local time, why did you choose a
21	Q. By local time, I mean the time zone	21	60-minute interval?
22	in which the trader resides, is located	22	A. My interpretation of my assignment
23	during that period of time.	23	was to calculate the price exactly at the
24	A. Yes, I agree with that statement.	24	petition time. That meant that I chose a
25	Q. Just to be clear, you agree that	25	calculation window immediately prior to the
	Page 144		Page 145
1	K. Lu	1	K. Lu
2	petition time. If I chose a different	2	consider it to be a close competitor because
3	window, that would violate my understanding	3	the profile of clients that we serve is very
4	of the assignment because it would involve	4	different. My understanding is that Coin
5	data, perhaps a significant time before the	5	Market Cap uses an advertising based and
6	petition time.	6	exchange paid business model and primarily
7	Q. A point of disagreement between you	7	serves a retail user base, whereas Coin
8	and Mr. Konstantinidis relates to the	8	Metrics, we are exclusively a business to
9	liability of trading volume data from Coin	9	business company that serves institutional
10	Market Cap, correct?	10	investors and other companies in the digital
11	A. Yes.	11	assets industry.
12	Q. Coin Market Cap is a data	12	Q. Do you agree with me that Coin
13	aggregator, correct?	13	Market Cap as well as Coin Metrics' customer
14	A. Yes.	14	base overlaps?
15	Q. What does it mean to be a data	15	A. No, I said that we don't believe
16	aggregator?	16	there is much overlap because Coin Market Cap
17	A. In this context, I mean that it's	17	primarily serves a retail user base, they
18	taking data from a large number of exchanges	18	primarily serve the exchanges themselves,
19	and applying statistical techniques to show	19	that's how they get paid, whereas Coin
20	prices and combine trading volume.	20	Metrics serves institutional investors and
21	Q. Coin Market Cap is a competitor of	21	companies in the industry.
22	Coin Metrics, correct?	22	Q. So it's your understanding that
	A. Depends on what you mean by	23	Coin Market Cap does not serve institutional
23			
232425	competitor. Internally, we don't really	24 25	investors or others in the industry? A. They may serve, but I think

	Page 146		Page 1	.47
1	K. Lu	1	K. Lu	
2	primarily they do not serve institutional	2	Q. You said that you reviewed other	
3	investors.	3	reviewer's findings, is that what you said?	
4	Q. You indicate that Coin Market Cap	4	A. Yes.	
5	is not a reliable source of trading volume	5	Q. Did you independently assess the	
6	data because you believe, based on certain	6	other reviewer's finding or did you just take	
7	studies identified in your response, that	7	the reviewer's finding at face value?	
8	Coin Market Cap's volume numbers include a	8	A. As one example, I reviewed the 2019	
9	large portion of fake volume and wash	9	Bitwise paper which concluded that 95 percent	
10	trading, correct?	10	of the volume is fake and although we have	
11	A. Yes.	11	not performed the same exact analysis that	
12	Q. Have you performed any independent	12	Bitwise did, we have used the techniques that	
13		13		
	analysis of the reliability of the trading	14	they introduced in the paper and applied it to our own sample of data and have found	
14 15	volume reported by Coin Market Cap?	15		
16	A. I personally haven't.	16	those techniques are effective in identifying	
	Q. Has anyone done so at your direction?	17	exchanges that may engage in wash trading.	
17		18	Q. So the Bitwise article that you	
18	A. No.	19	were just mentioning, I will refer to it as	
19	Q. Why did you caveat your answer,		the 2019 Bitwise article.	
20	personally, you have not?	20	Do you understand?	
21	A. I decided to caveat because I	21	A. Yes.	
21 22 23	reviewed research from other researchers	22	Q. Following the publication of the	
23	outside of Coin Metrics who have examined the	23	2019 Bitwise article, Coin Market Cap made	
24	accuracy of Coin Market Cap's volumes and	24	some changes to how it calculates total sales	
25	their conclusion is that it's over reporting.	25	volume, correct?	
	Page 148		Page 1	.49
1	K. Lu	1	K. Lu	
2	A. Yes, trading volume.	2	A. Yes, I think an exchange that has	
3	Q. And, in fact, in footnote 8 of your	3	zero trading fees invites wash trading.	
4	response, you note that after the publication	4	Q. So removing exchanges without	
5	of the 2019 Bitwise article, Coin Market Cap	5	trading fees would reduce the percentage of	
6	began excluding a particular exchange from	6	fake volume or wash trading, correct?	
7	reported volume calculations if the exchange	7	A. It would, but there would be	
8	had zero fees, provides incentives to users	8	several other exchanges that engage in wash	
9	to trade or if the price outliers are	9	trade that that rule would not exclude.	
10	detected, isn't that correct?	10	Q. Such as?	
11	Footnote 8, paragraph 10 of your	11	A. As I explained in my footnote 8,	
12	report if you would like to refer to it.	12	the steps that Coin Market Cap took represent	
13	A. Yes, that's correct.	13	only the most cursory attempts at addressing	
14	Q. When were these changes	14	the fake volume problem. They are removing	
15	implemented?	15	exchanges which are engaging the most blatant	
16	A. I don't know the exact date, but in	16	and obvious forms of wash trading. It's my	
17	the subsequent months after the publication	17	opinion that if an exchange wants to engage	
18	of the 2019 Bitwise report.	18	in wash trading to deceive market	
19	Q. So the changes would have been	19	participants, they would want to do it in a	
20	implemented prior to the petition date?	20	somewhat covert manner, they want to do it	
21	A. Yes.	21	secretly and not let others know that they	
22	Q. Would an exchange that had zero	22	are doing so in order for their deception to	
23	fees be more likely to have more fake volume	23	succeed.	
24	or wash trading than an exchange that	24	It's my understanding that Coin	
25	enforces trading fees?	25	Market Cap is still taking no steps to	

address exchanges that may engage in covert deception and it is still my opinion that Coin Market Cap's volume includes substantial amount of wash trading correct? A. Yes, it would – an exchange that engages in that process would have more wash tradic Q. So removing exchanges that provides incentive to users to trade would reduce the percentage of fake volume or wash trading, correct? A. Yes, but as I mentioned before, that only addresses the most cursory attempt at addressing the problem. Q. Would an exchange that provides outliers be more likely to have fake volume or wash trading than an exchange that does not offer such incentives? A. It inknown that it's unrelated to wash tradic, I don't know why Coin Market Cap researchers? A. Yes. They are listed in my researchers? A. Yes. They are listed in my researchers? A. Yes. They are listed in my researchers? A. Yes. Co. Is it fair to say that footnote 7 includes all of the researchers of which you are aware? A. Yes. Co. Is Le Pennec one of the researchers? A. Yes. A				Page 151
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